

Agricultural Research Institute, Pusa

**Agricultural Implements and Machinery at Pusa
Part III**

**Special and Miscellaneous Implements and
Machinery**

BY

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AGRICULTURAL IMPLEMENTS AND MACHINERY AT PUSA, PART III.

MISCELLANEOUS & SPECIAL IMPLEMENTS AND MACHINERY.

(Received for publication on 26th November 1928.)

Land Leveller.

(Plate I, fig. 1.)

This implement is most useful for levelling, terracing and making bunds. It is a modification of the common Egyptian "Kassibiah" leveller. When full of earth, it is tipped, and the rope between the handles rests on the draught chain. Indian labour very soon gets accustomed to this implement and this is far more efficient than the simple levelling plank. The price is Rs. 7.

Maize Cob Sheller.

(Plate I, fig. 2.)

This hand machine is made by Messrs. Hunt & Co. and does quite useful work. Where much maize is growing, something of this nature is very necessary as the local method of beating heaps of cobs with sticks is long and laborious.

Winnowing Machine.

(Plate II, fig. 1.)

This is a useful adjunct to the farm and practically all class of grain can be cleaned. There is a big field for an implement of this sort in India to clean grain which has been threshed by bullock treading. General types sold in India are very expensive.

Hand Chaff-cutter.

(Plate II, fig. 2.)

There is already a big demand in many parts of India for chaff-cutters. They are largely used for chopping straw, sorghum, maize and cane. The local practice is to cut these materials over a block of wood with a hatchet.

The "Rajah" chaff-cutter (Plate II, fig. 2) is a well made and durable article. It is sold by Messrs. Volkart Bros., Lyallpur. The price varies from Rs. 72 to Rs. 77 depending on the diameter of the fly-wheel which varies from 34" to 42".

Silage-cutter.

(Plates III and IV.)

About thirty thousand maunds of maize silage is made annually at Pusa. The following implements have been tried:—

1. Richmond and Chandlers' No. 64 Chaff-cutter.
2. Monarch Shredder No. 17, Ohio.
3. Climax Silage-cutter.
4. International Silage-cutter, Types B and E.

The International Harvester Company's two types of Silage-cutter have been found thoroughly efficient and up-to-date. Type E is identical with Type B excepting that it is smaller and has four lengths of cuts instead of eight as found on Type B and has two knives instead of three found on Type B. The Type B is suitable and works efficiently with steam power, but the Type E may be used with tractors. Light tractors like the Austin and Fordson do not develop sufficient power and so the output is always low. Under Pusa conditions, Type B has done 8 tons per hour when driven by steam engine and Type E, 6 to 7 tons per hour, the crop being maize and cut half-inch. Price of Type E is Rs. 1,250, and of Type B Rs. 1,440; they can be obtained through the Agents, Messrs. Macbeth Bros., Bombay.

Sugarcane Cultivation Implements.

(Plate V and Plate VI, fig. 1.)

The three implements illustrated are used in the Pusa method of planting cane. The furrow is first opened with a ridging plough which has a marker attached, then the subsoil plough breaks up the sole of the

furrow. The gatherer is pulled along the furrow after cane setts have been placed in the furrow; it fills the furrow and leaves the surface level. The ridging plough mentioned is made by Messrs. Ransomes, Sims and Jefferies; the Agents are Messrs. Jessop & Co., Calcutta, and the price is Rs. 110.

Grain Crusher and Grinder.

(Plate VI, fig. 2.)

At Pusa, the grain grown on the Farm such as oats, maize and pulses are all crushed and fed as a mash. The mill used is made by the Nahan Foundry, Amballa, and it costs Rs. 225. It would crush about 8 maunds of oats or pigeon-pea, and about 20 maunds of maize or pulses in an hour. It has 2 ft. stones and a 15-inch pulley. It works about 200 revolutions per minute.

Carts.

(Plate VII.)

Two types of carts are in general use on the Farm, one the local Bihar and the other is a "tip" cart which design was originally obtained from the Surat District.

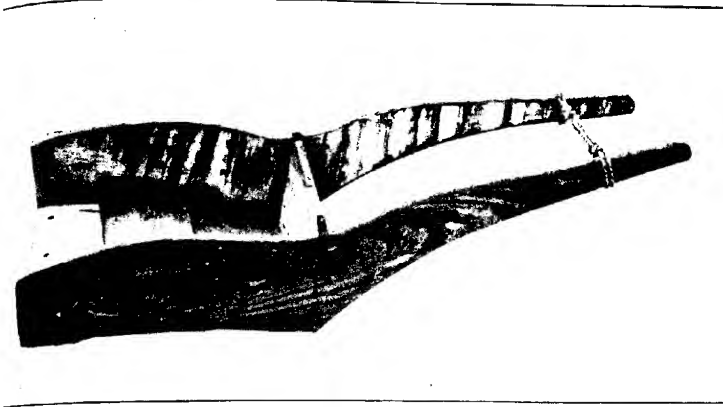


Fig. 1. Wooden Leveller.

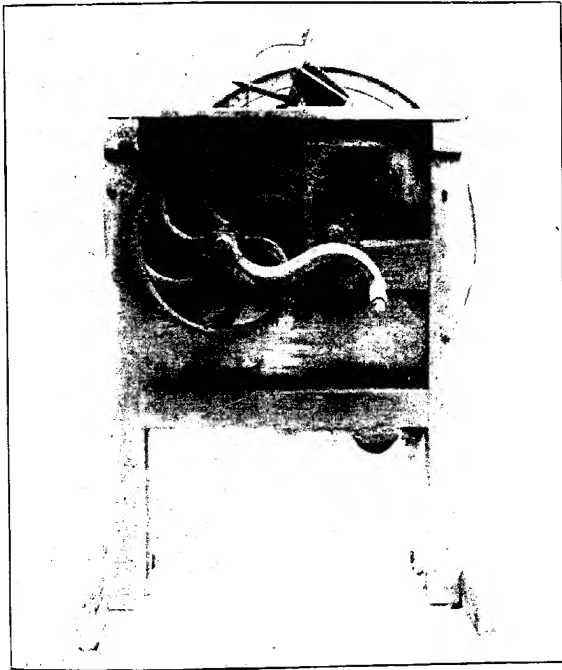
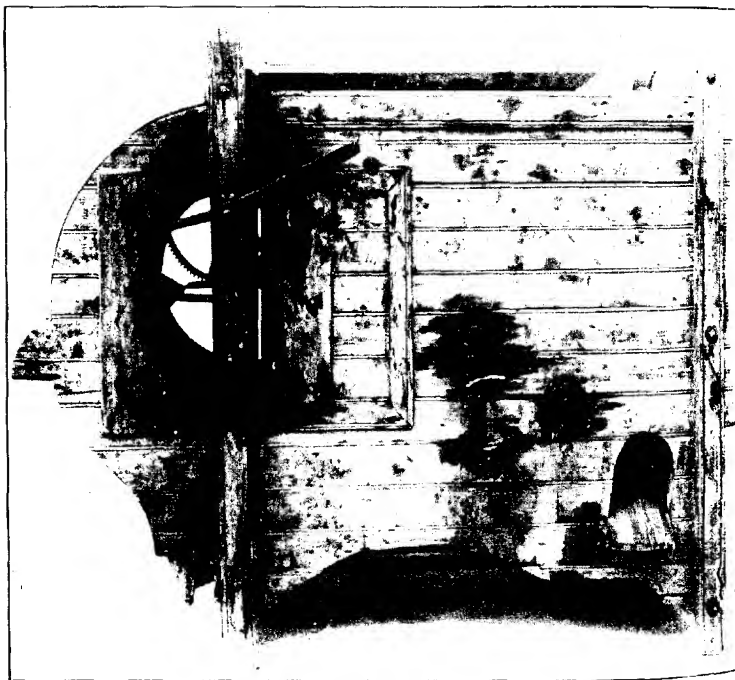
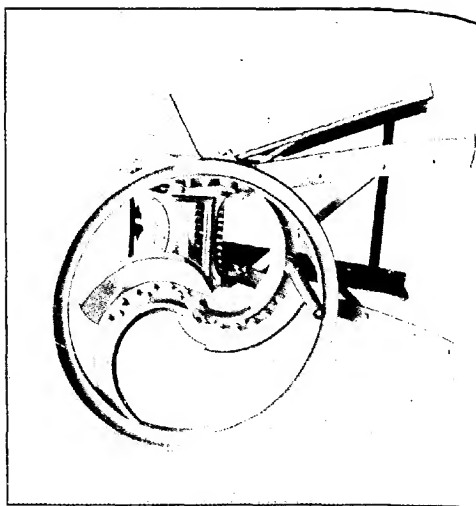
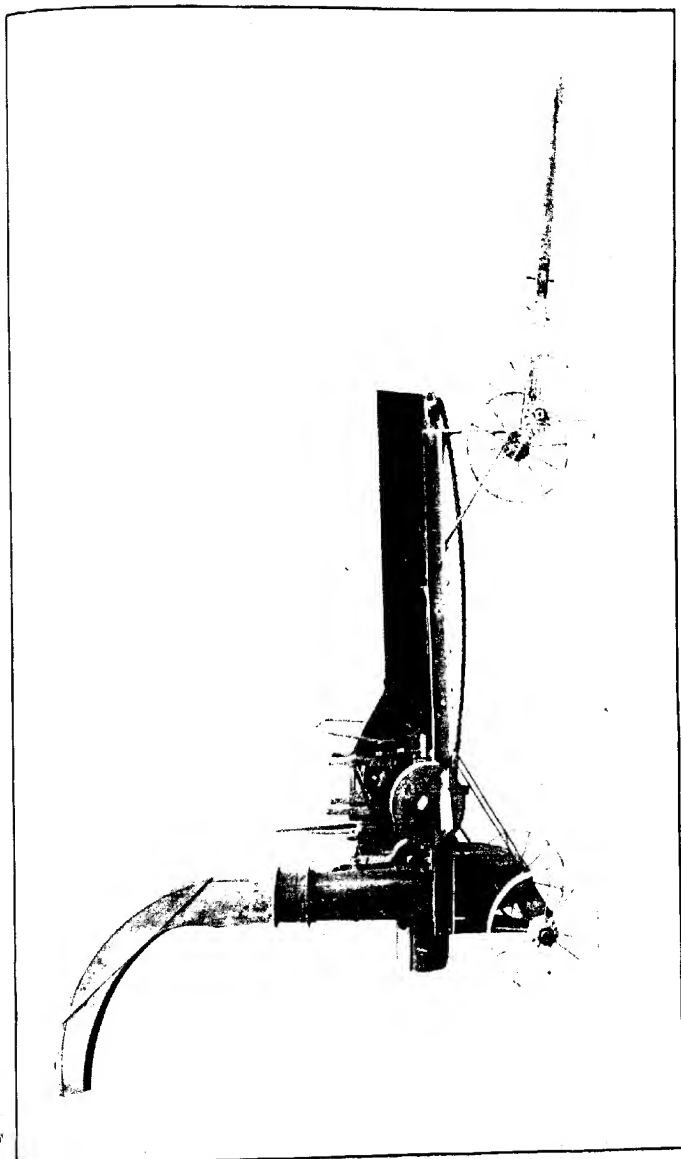


Fig. 2. Maize Cob Sheller.

PLATE II.





SILAGE CUTTER AND BLOWER.

PLATE IV.



SILAGE CUTTER IN OPERATION.

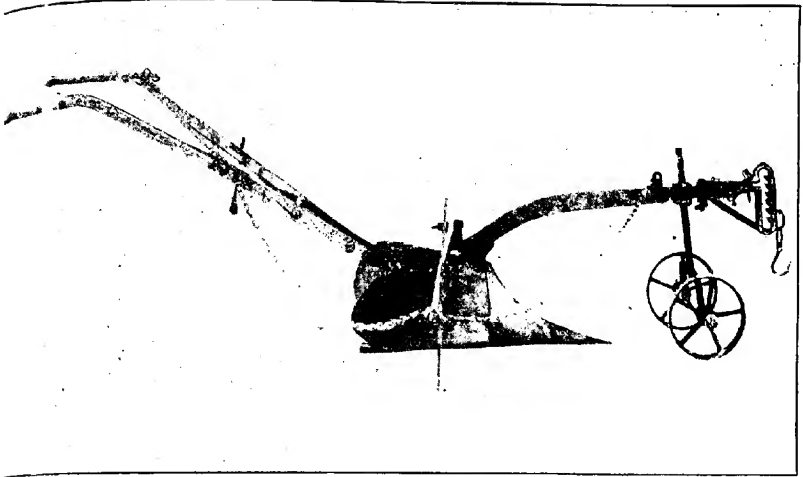


Fig. 1. Ridging Plough for Sugarcane.

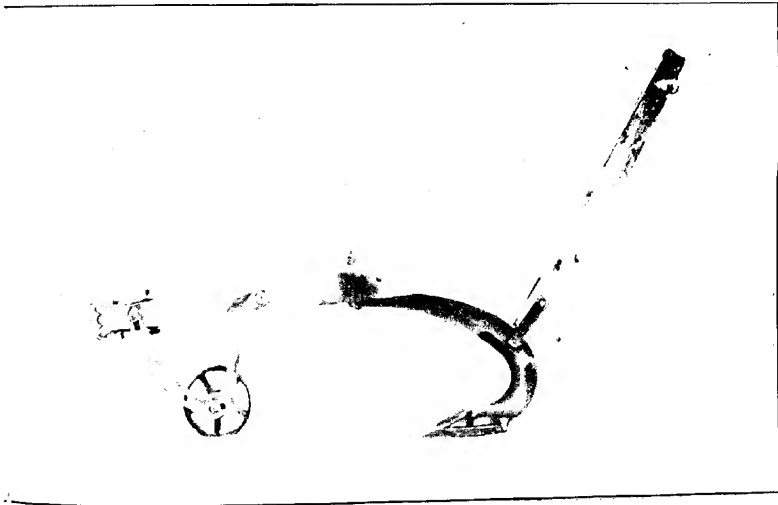


Fig. 2. Sub-soil Plough.

PLATE VI.

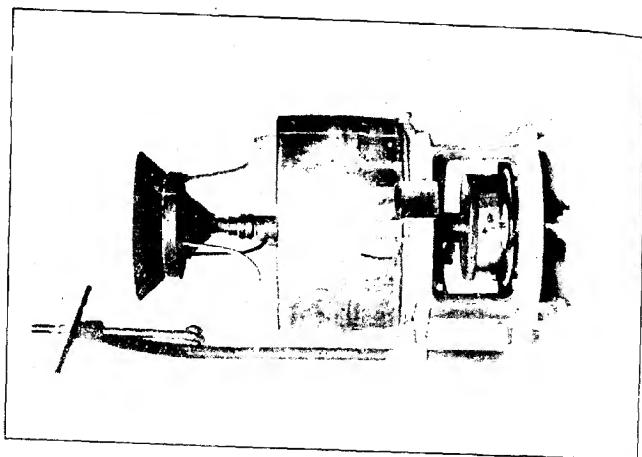


Fig. 2. Grain Catheter, A.H.H.

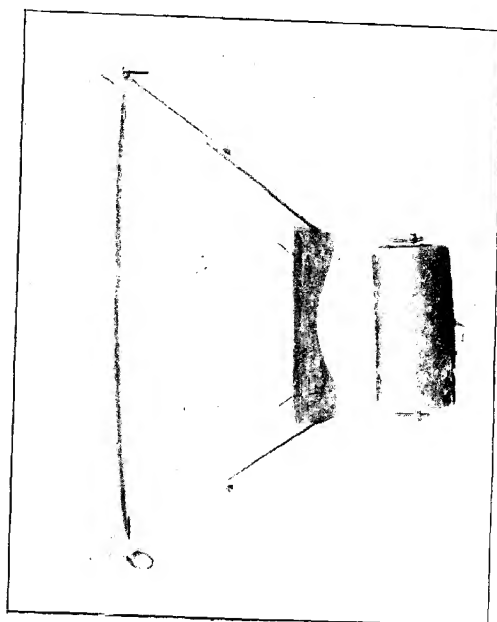
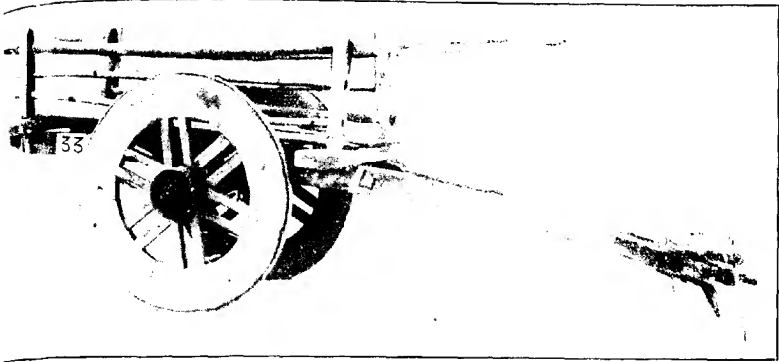
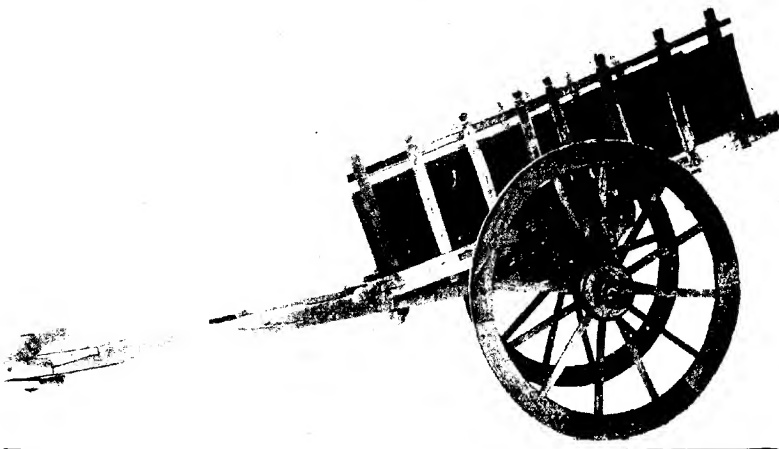


Fig. 1. Soil Catheter.



"Deak" Cart



Sarat Type Cart.

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Power Implements and Machinery

BY

G. S. HENDERSON, N.D.A., N.D.D.

Imperial Agriculturist, Pusa

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